



Effects of Green Tea on Adipose Gene Expression, Hepatic Antioxidants and Lipid Profile in Obese Male Rats

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Abstract:

Background and Objective: Role of green tea constituents in enhancing adipose Mesoderm Specific Transcript (MEST) expression of obese rats has not investigated yet. Evaluation of their effects on lipid profile, MEST expression and oxidative biomarkers were main objective of the current study. **Materials and Methods:** About 60 rats used in the current experiment (32 weeks) and divided into two unequal groups. Rats of the first group (n = 10) was negative control and fed basal diet (C). Rats of the second group (n = 50) was positive control, fed high fat diet and divided into five equal treatments (T1, T2, T3, T4 and T5). Rats of T1 were positive control and fed high fat diet. Rats of T2-T5 fed high fat diet mixed with green tea, Epigallocatechin gallate (EGCG), polyphenol 60 and EGCG+caffeine, respectively. **Results:** High fat diet elevated total cholesterol (TC), triacylglycerol (TAG), low-density lipoprotein cholesterol (LDL-C), malondialdehyde (MDA) and MEST gene expression and reduced high-density lipoprotein cholesterol (HDL-C), glutathione (GSH), catalase (CAT) and glutathione-s-transferase (GST). Green tea or its constituents particularly EGCG restored the changed values towards the negative control. **Conclusion:** These results concluded that EGCG might be potential therapy against obesity over whole herb or other studied constituents.

Keywords:

Key words: Green tea, catechins, polyphenols, adipose genes, malondialdehyde, obesity

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